

REMARKS/ARGUMENTS

Claims 1-9 are pending in the application. On pages 2-5 of the Office Action, claims 1-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,903,819 of Romesburg in view of U.S. Patent 5,867,535 of Phillips. In rejecting claim 1 for example, it is stated in the Office Action that Romesburg teaches a noise cancel circuit for removing noise components in a detected radio signal. Such reference does not teach an interpolation circuit for performing interpolation processing on a detected radio signal or doing generation of a noise pulse. A noise portion of a detected radio signal is interpolated by an output signal. Phillips is said to teach an interpolation circuit for performing interpolation processing on a detected signal, generation of a pulse noise, and a portion of a detected signal that is interpolated by an output signal. According to the Office Action, it would have been obvious to one of ordinary skill in the art to adapt Romesburg to include an interpolation circuit for performing interpolation processing, as taught by Phillips. This rejection is respectfully traversed.

Briefly stated, the present invention provides a delay circuit for delaying a raw signal and then supplying to one of the input terminals of a selection circuit. The raw signal is also supplied to another delay circuit to be delayed. Subsequently, data of the delayed signal is processed by spline interpolation in an interpolation circuit, and the interpolation values are supplied to the other of the input terminals of the selection circuit. A timer is operated according to an output signal from a noise detection circuit which detects noise in the raw signal. When noise is detected, the selection circuit switches to select the output from the interpolation circuit, thereby achieving interpolation of noisy sections.

Thus, in noise cancellation circuits according to the invention, when a noise is detected, the noise is removed by outputting interpolation data. A signal line may be provided as the line for the detected signal. Interpolation processing is begun for executing interpolation when a noise is detected.

Romesburg and Phillips, taken alone or in the attempted combination thereof do not disclose or suggest a noise cancel circuit in accordance with the invention. Romesburg suppresses noise by detecting noise components. With respect to a periodic noise component, an estimated noise component is added to the signal. Consequently, such reference merely discloses performing an interpolation processing for a digitized audio signal. Such reference neither discloses nor suggests the feature in accordance with the present invention that when a noise is detected, the noise is removed by outputting interpolation data. Similar comments apply to Phillips.

Claims 1-9 in their present form are submitted to clearly distinguish patentably over the art. In claim 1, for example, the noise cancel circuit thereof includes an interpolation circuit for performing interpolation processing on a detected radio signal. As further recited by claim 1, "during generation of a pulse noise, a noise portion of said detected radio signal is interpolated by an output signal from said interpolation circuit". Claim 3 depends from and further defines the circuit of claim 1 in terms of a noise detection circuit for detecting the noise portion of the detected radio signal, which circuit performs the function recited in claim 1. Claims 2 and 4-9 depend, directly or indirectly from and also add further limitations to claim 1. In addition, such claims contain all of the limitations of claim 1 so as to clearly distinguish patentably over the art.

In conclusion, claims 1-9 are submitted to clearly distinguish patentably over prior art for the reasons discussed. Therefore, reconsideration and allowance are respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles telephone number (213) 337-6846 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

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Date: May 19, 2003

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